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S6 CSA

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Program

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from breezypythongui import EasyFrame
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class BillingSystem(EasyFrame):
    def __init__(self):
        EasyFrame.__init__(self, title="BILLING SYSTEM")
        self.setBackground("#00FFFF")

        self.addLabel(text="PRODUCT NUMBER", row=0, column=0)
        self.prodNumField = self.addIntegerField(value=0, row=0, column=1)

        self.addLabel(text="COST", row=1, column=0)
        self.costField = self.addFloatField(value=0.0, row=1, column=1)

        self.addLabel(text="QUANTITY", row=2, column=0)
        self.quantityField = self.addIntegerField(value=0, row=2, column=1)

        self.addButton(text="ADD PRODUCT", row=3, column=1, command=self.add_product)

        self.addLabel(text="PRODUCT LIST", row=4, column=0, columnspan=2)
        self.productList = self.addTextArea("", row=5, column=0, rowspan=5, columnspan=2, width=50,
height=10)

        self.addButton(text="SUBMIT", row=10, column=0, columnspan=2, command=self.calculate_bill)

        self.products = []

    def add_product(self):
        prod_num = self.prodNumField.getNumber()
        cost = self.costField.getNumber()
        quantity = self.quantityField.getNumber()

        self.products.append((prod_num, cost, quantity))

        self.update_product_list()

        self.prodNumField.setNumber(0)
        self.costField.setNumber(0.0)
        self.quantityField.setNumber(0)
```

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def update_product_list(self):
    product_str = ""
    for product in self.products:
        product_str += f"PRODUCT NUMBER= {product[0]:5d} | COST= {product[1]:5f} | QUANTITY= {product[2]:5d}\n"
    self.productList.setText(product_str)

def calculate_bill(self):
    total_cost = sum(cost * quantity for _, cost, quantity in self.products)
    self.messageBox(title="FINAL BILL", message=f"TOTAL BILL = ${total_cost:.2f}")

def main():
    BillingSystem().mainloop()

if __name__ == "__main__":
    main()

```

Output

The screenshot shows the 'BILLING SYSTEM' window. It has three input fields: 'PRODUCT NUMBER' with value '0', 'COST' with value '0.0', and 'QUANTITY' with value '0'. There is an 'ADD PRODUCT' button. Below these is a 'PRODUCT LIST' label and a large text area. At the bottom is a 'SUBMIT' button.

The screenshot shows the 'BILLING SYSTEM' window after adding products. The 'PRODUCT LIST' text area now contains the following text:

PRODUCT NUMBER=	1	COST= 10.000000	QUANTITY= 10
PRODUCT NUMBER=	2	COST= 12.000000	QUANTITY= 22
PRODUCT NUMBER=	3	COST= 15.000000	QUANTITY= 8

The screenshot shows the 'BILLING SYSTEM' window with a 'FINAL BILL' dialog box open. The dialog box displays 'TOTAL BILL = \$484.00' and has an 'OK' button. The background window shows the same product list as the previous screenshot.